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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,249	08/26/2003	Katsuya Kawagoe	241938US3	3049
22850	7590	07/28/2004		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER GRAINGER, QUANA MASHELL	
			ART UNIT 2852	PAPER NUMBER

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,249

Applicant(s)

KAWAGOE, KATSUYA

Examiner

Quana Grainger

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 6 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed 11-26-2003 and 3-3-2004 has been considered.

Drawings

3. The formal drawings are approved by the examiner.

Title

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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6. Claims 1, 3-5, 7, 9, 12-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwama et al. in view of Todome

Iwama et al. teaches an image forming apparatus comprising a rotating belt 2 for forming an image, the rotating belt; and an arrangement 10 that is attached to a portion along the rotating belt. The arrangement is a scale that is used to detect an amount of movement of the rotating belt. The scale has a width and a length and includes a reflecting part and a non-reflecting part repeatedly disposed along the length of the scale at a predetermined interval. The image forming apparatus further comprising: a driving unit that drives the rotating belt; a reading unit that reads the scale; and a control unit that controls the driving unit based on a result of reading of the scale by the reading unit. The arrangement is a scale that is used to detect an amount of movement of the rotating belt. The image forming apparatus further comprising a driving unit that drives the rotating belt; a reading unit that reads the scale; and a timing control unit that controls a start timing of an image forming operation based on a result of reading of the reading unit.

Iwama et al. does not teach the Young's modulus of the arrangement (scale) or the Young's modulus of the rotating belt.

Todome teaches the Young's modulus of a rotating belt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of the modulus of the belt taught by Todome for the belt of Iwama et al. to achieve a belt that does not fray at the edges.

Iwama et al. does not teach the modulus of the scale. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the Young's modulus

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of the scale to support non-fraying of the belt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Iwama et al. does not teach the magnetic scale. The examiner takes official notice that it is known in the art to use a magnetic scale with a rotating belt. It would have been an obvious matter of design choice to use a magnetic scale, since applicant has not disclosed that reflective scale solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the a magnetic scale.

7. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwama et al. in view of Todome and further in view of Kayahara (JP2001-194921A).

Iwama et al. does not teach a protection seal for the rotating belt. Kayahara teaches a protection seal for a rotating belt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of a protection seal taught by Kayahara for the belt of Iwama et al. to achieve protection for the position mark (Kayahara; advantage: 1-5).

8. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwama et al. in view of Todome and further in view of Kawagoe (JP2001-194922A).

Iwama et al. does not teach a stopper for the rotating belt. Kawagoe teaches a stopper for a rotating belt. It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to use the teaching of a stopper taught by Kawagoe for the belt of Iwama et al. to achieve better positioning for the rotating belt (Kawagoe; advantage: 1-3).

Allowable Subject Matter

9. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art of Record

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ito, Irie et al., and Kamoshita teach pertinent prior art.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana Grainger whose telephone number is 571-272-2135. The examiner can normally be reached on weekdays between the hours of 7-4:30.

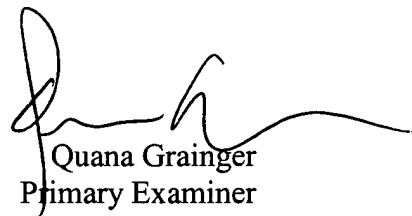
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Quana Grainger', with a long horizontal flourish extending to the right.

Quana Grainger
Primary Examiner
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QG